## REMARKS

### Summary

Claims 1-18 stand in this application. Favorable reconsideration and allowance of the standing claims are respectfully requested

### Claim Objections

Claim 10 has been amended to correct minor informalities. Accordingly, Applicant respectfully requests removal of the claim objection with respect to claim 10.

### 35 U.S.C. § 112

Claim 5 has been rejected under 35 U.S.C. § 112 for not particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention. Applicant respectfully traverses the rejection. Applicant respectfully submits that the language "to one or more OFDM carrier symbols" does not refer to a previous instance of "OFDM carrier symbols." According, there is no issue regarding the antecedent basis of the term. Applicant respectfully requests removal of the rejection under 35 U.S.C. § 112 with respect to claim 5.

### 35 U.S.C. § 102

At page 3, paragraph 1 of the Office Action claims 1-18 stand rejected under 35 U.S.C. § 102 as being anticipated by United States Patent Publication 2002/0102940 A1

to Bohnke et al. (hereinafter "Bohnke"). Applicant respectfully traverses the rejection, and requests reconsideration and withdrawal of the anticipation rejection.

Applicant respectfully submits that to anticipate a claim under 35 U.S.C. § 102, the cited reference must teach every element of the claim. *See* MPEP § 2131, for example. Applicant submits that Bohnke fails to teach each and every element recited in claims 1-18 and thus they define over Bohnke. For example, with respect to claim 1, Bohnke fails to teach, among other things, the following language:

> an adaptive bit loading block to receive channel state information for a plurality of subcarriers and to select a modulation scheme and a puncturing pattern for each of the plurality of subcarriers or for each of a plurality of subbands based on the channel state information;
>
> a puncturing block to puncture a coded bit stream for each of a plurality of subcarriers or subbands in accordance with the selected puncturing pattern

According to the Office Action, this language is disclosed by Bohnke at paragraphs 12 and 38. Applicant respectfully disagrees.

Applicant respectfully submits that claim 1 defines over Bohnke. Bohnke at the given cite, in relevant part, states:

> In FIG. 1, the consecutive functional blocks for FEC encoding and modulation following the scrambling processing 16 of the receiving part 10 are shown. The function FEC and modulation on the transmitter side 10 consists of six functional blocks: tail bit appending 1, convolutional encoding 2, puncturing P1 3, puncturing P2 4, interleaving 5 and bit to symbol mapping 6. The appended tail bits are needed for code termination. The convolutional encoder 2 is a rate 1/2 encoder with 64 states. The puncturing P1 3 is applied to obtain exactly a code rate of 1/2. For this purpose, only twice the number of tails bits has to be punctured out, independently of the desired code rate of the physical mode. The puncturing P2 4 is used to obtain the desired code rate 15 of the physical mode and, therefore, the desired code rate is needed as input. After puncturing 3, 4, the interleaving is performed by a block interleaver 5 with a block size corresponding to the number of bits in a single OFDM symbol. The interleaver 5 ensures that adjacent coded bits are mapped onto nonadjacent subcarriers and that adjacent

> coded bits are mapped alternately onto less and more significant bits of the constellation points of the modulation alphabet. Consequently the interleaved bits are mapped 6 onto the signal constellation points of the modulation alphabet. The output of the FEC & Modulation block 7 are the subcarrier symbols supplied to the OFDM symbol generator 26.
>
> According to a first aspect of the present invention a wireless multicarrier transmission method is proposed, wherein subcarriers of the multicarrier transmission are modulated. The modulation scheme on each subcarrier is selected depending on the channel transfer function on the subcarrier.

As indicated above, Bohnke arguably discloses selecting a modulation scheme depending on the channel transfer function on the subcarrier. Further, Bohnke arguably discloses puncturing steps P1 and P2. By way of contrast, the claimed subject matter includes "an adaptive bit loading block to receive channel state information for a plurality of subcarriers and to select a modulation scheme and a puncturing pattern for each of the plurality of subcarriers or for each of a plurality of subbands based on the channel state information." Bohnke fails to disclose choosing a puncturing pattern based upon channel state information. The puncturing disclosed by Bohnke is arguably used to obtain a desired code rate as a means to achieve different levels of error correction. The puncturing, however, is not based upon a puncturing pattern related to received channel state information. Consequently, Bohnke fails to disclose all the elements or features of the claimed subject matter. Accordingly, Applicant respectfully requests removal of the anticipation rejection with respect to claim 1. Furthermore, Applicant respectfully requests withdrawal of the anticipation rejection with respect to claims 2-9, which depend from claim 1 and, therefore, contain additional features that further distinguish these claims from Bohnke.

Claims 10, 12, 15 and 18 recite features similar to those recited in claim 1. Therefore, Applicant respectfully submits that claims 10, 12, 15 and 18 are not anticipated and are patentable over Bohnke for reasons analogous to those presented with respect to claim 1. Accordingly, Applicant respectfully requests removal of the anticipation rejection with respect to claims 10, 12, 15 and 18. Furthermore, Applicant respectfully requests withdrawal of the anticipation rejection with respect to claims 11, 12, 14, 16 and 17 that depend from claims 10, 12, 15 and 18, and therefore contain additional features that further distinguish these claims from Bohnke.

**Conclusion**

For at least the above reasons, Applicant submits that claims 1-18 recite novel features not shown by the cited references. Further, Applicant submits that the above-recited novel features provide new and unexpected results not recognized by the cited references. Accordingly, Applicant submits that the claims are not anticipated nor rendered obvious in view of the cited references.

Applicant does not otherwise concede, however, the correctness of the Office Action's rejection with respect to any of the dependent claims discussed above. Accordingly, Applicant hereby reserves the right to make additional arguments as may be necessary to further distinguish the dependent claims from the cited references, taken alone or in combination, based on additional features contained in the dependent claims that were not discussed above. A detailed discussion of these differences is believed to be unnecessary at this time in view of the basic differences in the independent claims pointed out above.

It is believed that claims 1-18 are in allowable form. Accordingly, a timely Notice of Allowance to this effect is earnestly solicited.

The Examiner is invited to contact the undersigned at 724-933-9338 to discuss any matter concerning this application.

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. § 1.16 or § 1.17 to deposit account 50-4238.

Respectfully submitted,

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John F. Kacvinsky, Reg. No. 40,040
Under 37 CFR 1.34(a)

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